REMARKS

Reconsideration and allowance of the subject application are respectfully requested. Upon entry of this Amendment, claims 1-19 are pending in the application with claims 2-6 and 9-19 being withdrawn from consideration as being directed non-elected species. In response to the Office Action (Paper No. 10), Applicant respectfully submits that the pending claims define patentable subject matter.

Claim 1 is rejected under 35 U.S.C. § 103(a) as being anticipated by Enomoto et al. (USP 6,211,587; hereafter "Enomoto") in view of Johnson (USP 3,774,062). Claims 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Enomoto in view of Johnson and the "level of skills of a worker in the art". Applicant respectfully traverses the prior art rejections.

Enomoto is directed to an electric rotating machine including a stator and a rotor. As shown in Figures 1-3(b), the stator 1a comprises a core 2a and coils 10a which are inserted into slots 11 of the core 2a. The stator core 2a is formed by laminating silicon steel plates 11 and bending the laminated silicon steel sheets 11 into an annular shape. A pair of bearing holder portions 6a and 6b having bearings 8a and 8b are attached at both ends of the stator core 2a so as to cover coil end portions of coils 10a extending from both sides of the stator core 2a. An outer frame 4 covers a periphery of the stator core 2a. The outer frame 4 is formed by four semi-cylindrical portions 4a to 4d which are held together with compressive force in the axial direction between bearing holder portions 6a and 6b via bolts 9a and nuts 9b.

Amended independent claim 1 recites a core of the stator comprises (1) an inner ring core formed of laminated magnetic plate members having a plurality of teeth integrally provided on an inner side thereof, wave winding coils disposed in slots formed between the teeth, end faces of the laminated magnetic plate members contacting each other; and (2) an outer ring core fitted on an outer circumferential surface of the inner ring core and holding the inner ring core, wherein the outer ring core comprises at least one magnetic member having a ring shape and a one-piece construction. Applicant respectfully submits that Enomoto and Johnson do not teach or suggest the claimed outer ring.

The Examiner maintains that Enomoto discloses the claimed outer ring core via the outer frame 4. However, as discussed in the Amendment filed July 24, 2002, the outer frame 4 is not part of the stator 1a or the stator core 2a. Rather, the outer frame 4, along with the bearing holder portions 6a and 6b, form a frame or housing for enclosing and supporting the stator and the rotor of the electric induction machine. That is, the outer frame 4 is not part of the stator or the core of the stator since the outer frame 4 is assembled after the stator is constructed by compressing the four semi-cylindrical portions 4a to 4d in the axial direction between bearing holder portions 6a and 6b by bolts 9a and nuts 9b. Thus, the outer frame 4 is not part of the assembled stator 1a (i.e., the outer frame 4 can not stand alone with the stator 1a) since the four semi-cylindrical portions 4a to 4d can not be secured together to form the outer frame 4 without completing the final assembly of the electric induction machine by bolting together the bearing holder portions 6a and 6b.

Further, Applicant respectfully submits that it is quite clear that the outer frame of the Enomoto alternator is not formed by at least one magnetic member having a ring shape and a one-piece construction, as claimed. Rather, as discussed above, the outer frame 4 is formed by the four semi-cylindrical portions 4a to 4d which are held together by the bearing holder portions 6a and 6b and the bolts 9a and nuts 9b.

Although Enomoto discloses that the outer frame 4 may be made of iron, the reference does not teach or suggest that the outer frame 4 is formed of a magnetic member, as claimed. While iron may be magnetized to form a magnetic member, Enomoto does not disclose that the outer frame 4 is made of magnetized iron, and in fact, Enomoto discloses that the outer frame may be made of the other materials such aluminum (which clearly is not a magnetic member). Moreover, nowhere does Enomoto teach or suggest that the outer frame 4 functions as "a magnetic-flux-return part of the stator core's magnetic circuit", as the Examiner asserts. That is, Enomoto refers only to the pole teeth attached to the stator core 2a and the rotor 3 as being magnetic, and never refers to the outer frame 4 as being part of the stator 1a or the stator core 2a.

Enomoto also teaches that the stator teeth 20 and the stator core are separately manufactured and the stator teeth 20 are subsequently attached to the stator core 20. On the other hand, the present invention teaches that the teeth and stator core are integrally manufactured together thereby achieving improved dimensional precision in positioning the teeth. That is, the present invention teaches that a plurality of magnetic plate members having a plurality of teeth are laminated and curved, and two end faces are brought into contact to from a ring. In such a manufacturing process, the dimensional precision is reduced as compared with

manufacturing the stator core by initially punching it into a ring shape. To solve this problem of reduced dimensional precision, the present invention teaches that it is an essential requirement to integrally form the teeth on the magnetic plate members of the stator core.

Moreover, the winding of the stator according to the claimed invention is in the form of a "**wave winding**", as shown in Figures 1 and 4. On the other hand, the windings of the stator according to the cited references, including Enomoto, is in the form of a "**concentrated winding**".[1]

An object of the claimed invention is to solve a problem incidental to the wave winding coil shown in Figs. 33, 34 and 35, i.e., to solve the problem that it is "difficult to obtain a structurally perfect circle" and others, as described on pages 3, line 2-16 of the specification. In the case of employing the concentrated winding, the problem as mentioned above does not arise at the time of bending a core, because repulsion is not produced between the coils. Therefore, the claimed invention was not made to modify the Enomoto's stator by configuring the stator core having the core and the teeth being materially formed, as taught by Johnson.

Accordingly, Applicant respectfully submits that independent claim 1, as well as dependent claims 7 and 8, would not have been anticipated by or rendered obvious in view of Enomoto because the applied reference does not teach or suggest all of the features of the claims.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

[1] "Wave winding" means winding one coil on two teeth. "Concentrated winding" means winding one coil on one tooth.

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

Christopher R. Lipp
Registration No. 41,157

SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: December 4, 2002

Attorney Docket No.: Q61854